

Rack Air Containment System (ACCS1000—ACCS1007)—Overview

Introduction

The Rack Air Containment System (RACS) is a mechanical ducting system that attaches to the front or rear of an enclosure to provide increased cooling capacity. The RACS is a modular system that works with APC® NetShelter® SX enclosures and InRow® cooling units to provide maximum cooling predictability, capacity, and efficiency. By attaching the RACS to the rear of the NetShelter SX, air expelled from IT equipment is forced to pass through the cooling unit, where it is conditioned. This ensures that warm exhaust air does not enter the air inlets of installed servers. Redundant configurations allow maximum availability. Optional front containment configurations reduce noise and provide additional control of air flow. The RACS components can be attached to a single enclosure or a group of enclosures. The RACS consists of eight components that can be installed separately or together, depending on your configuration.

- ACCS1000—Rear containment for InRow RC or SC cooling units
- ACCS1001—Rear containment for NetShelter SX and InRow RP cooling units
- ACCS1002—End caps for any rear- or front-containment configuration
- ACCS1003—Front containment for InRow RC or SC cooling units
- ACCS1004—Front containment for InRow RP cooling units
- ACCS1005—Front containment for NetShelter SX enclosures
- ACCS1006—Rear containment for NetShelter SX 750-mm enclosures
- ACCS1007—Front containment for NetShelter SX 750-mm enclosures

Features of the RACS

- Rear containment—Ensures server exhaust air is returned to the InRow cooling unit for maximum cooling predictability. Prevents recirculation of hot exhaust air.
- Front containment—Ensures cold supply air is not captured by neighboring equipment.
- Modular design—Compatible with standard NetShelter SX enclosures, providing maximum system flexibility and scalability.
- Redundant configurations—Provide N + 1 or 2N redundancy by including additional InRow cooling units.
- Clear polycarbonate door inserts—Provide required air containment while allowing visibility to installed IT equipment and a consistent appearance across enclosures.
- Lockable doors—Provide enclosure security.
- Noise reduction—Containment of both the front and rear of the enclosure reduces the level of noise generated by the installed equipment.

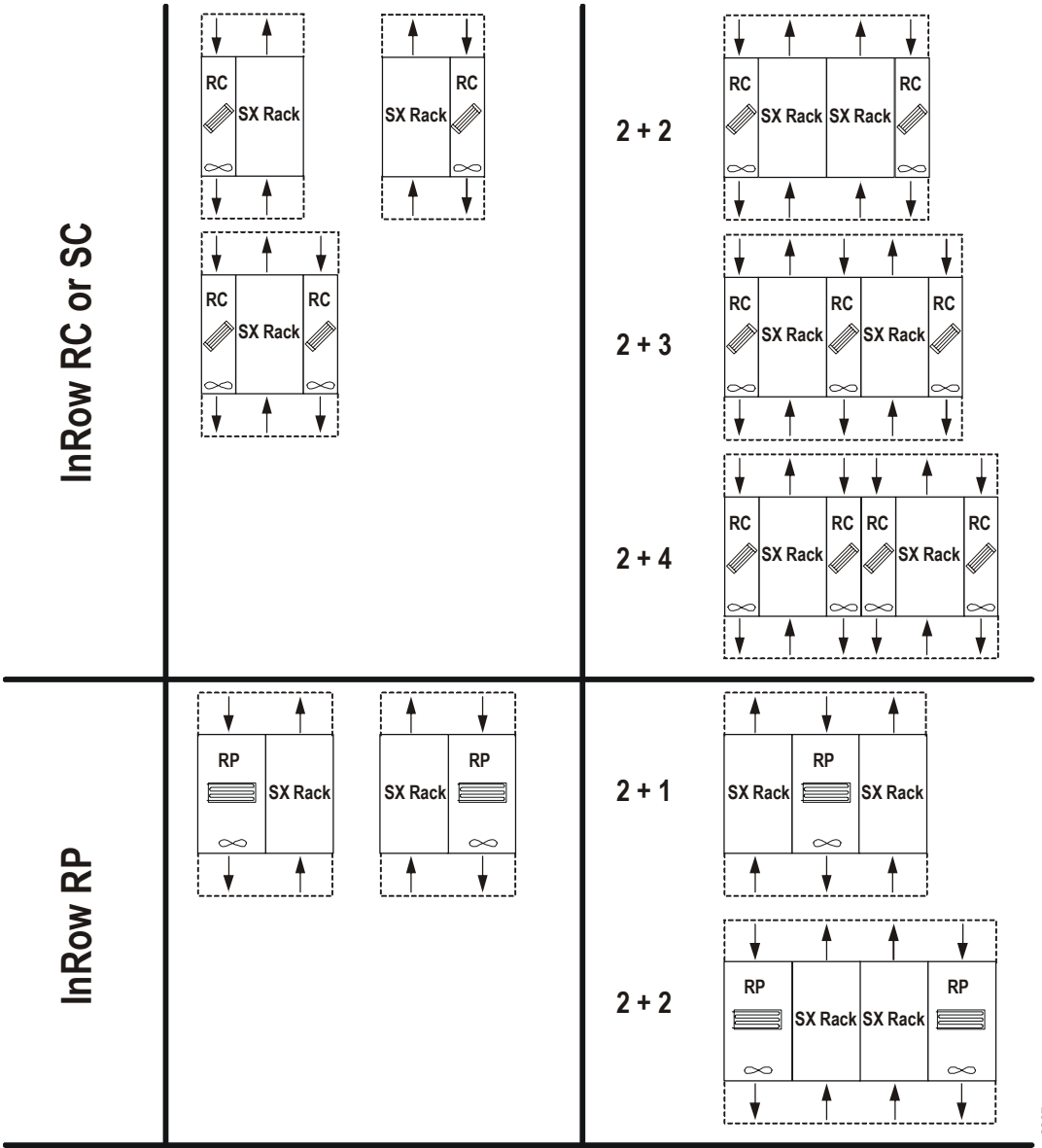
Compatibility

The RACS can be coupled with one or more NetShelter SX enclosures in the following configurations:

- A ducted return and flooded supply configuration
- A ducted return and ducted supply (recommended configuration for uncontrolled environments)

The configurations listed in the following table and shown in the following figure provide hot air retrieval and provide coupling for either redundancy or capacity.

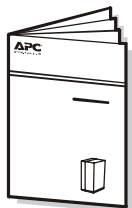
Number of NetShelter SX Enclosures	Number of InRow RC or SC cooling units	Number of InRow RP cooling units
1	1 or 2	1
2	2, 3, or 4	1 or 2



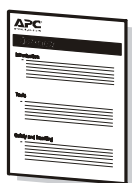
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Cross-reference symbols

If you need to remove and reinstall other equipment in order to install the RACS, see the documentation provided with that equipment for instructions.

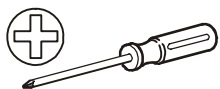


When you see this symbol in the RACS installation instructions, see the installation manual of the unit for detailed instructions.

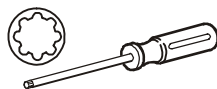


When you see this symbol in the RACS installation instructions, read the *RACS System Overview ACCS1000–ACCS1007* sheet before continuing with the installation of the equipment. This brief document is packaged with the Rack Air Containment End Caps (ACCS1002) and is available at the APC Web site, www.apc.com.

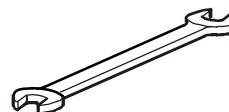
Tools required



#2 Phillips screwdriver



T30 Torx[®] screwdriver



10-mm wrench

Safety and handling



Note: The RACS is only intended for use with APC NetShelter SX enclosures.

Upon installation of this RACS, firmware reconfiguration of the cooling system is required. For configuration information, see the *Operation* manual for your cooling unit.



Caution: The air conditioners included in the system must have a capacity exceeding the load in the racks. Temperatures will exceed safe limits if the load exceeds the cooling capacity.



Caution: Do not install the RACS in ambient environments where the dew point (the temperature at which condensation begins) is expected to be greater than 18.3°C (65°F).

Maintenance

Cleaning the clear polycarbonate door inserts

1. Rinse the door insert with warm water. Wash the door insert gently with a soft cloth or sponge, warm water, and mild soap or detergent.



Caution: Do not scrub the polycarbonate door insert with brushes or squeegees.

2. Rinse the door insert again with warm water. Dry the door insert with a soft cloth or damp cellulose sponge to prevent water spotting.
3. To remove wet paint or grease, lightly rub the door insert with VM and P grade naphtha or isopropyl alcohol, then wash and rinse.

Compatible cleaning agents

- Aqueous solutions of soaps and detergents
- Glass and light-duty hard surface cleaner



Caution: Do not use abrasive or highly alkaline cleaners. Never scrape the insert with razor blades or other sharp objects.

Never use acetone, benzene, carbon tetrachloride, or gasoline as a cleaner.

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